


SCHEME OF INSTRUCTION & EXAMINATION


FIRST YEAR ENGINEERING

(CIVIL, MECHANICAL, ELECTRICAL & ELECTRONICS, ELECTRONICS & TELECOMMUNICATION, & COMPUTER ENGINEERING)

SEMESTER I

No.	Subject	L	T	P	Duration of Theory Exam	Marks Alloted				Total
						TH	S	P	O	
1.1	Applied Mathematics I	3	0	0	3	100	25	0	0	125
1.2	Applied Science – I (Physics & Chemistry)	4	0	2	3	100	50	0	0	150
1.3	Basic Engineering - I (Civil & Mechanical Engg.)	4	0	2	3	100	50	0	0	150
1.4	Information Technology – I	3	0	2	3	100	50	0	0	150
1.5	Engineering Graphics	2	0	4	4	100	50	0	0	150
1.6	Communication Skills	2	0	0	0	0	50	0	0	50
1.7	Workshop Practice	0	0	4	0	0	50	0	0	50
TOTAL		18	0	14	-	500	325	0	0	825

  
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 Prof. in Charge  
 Academic Section  
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SEMESTER II

No.	Subject	L	T	P	Duration of Theory Exam	Marks Alloted				Total
						TH	S	P	O	
2.1	Applied Mathematics II	3	0	0	3	100	25	-	-	125
2.2	Applied Science - II (Physics & Chemistry)	4	0	2	3	100	50	-	-	150
2.3	Basic Engineering - II (Electrical & Electronics Engg.)	4	0	2	3	100	50	-	-	150
2.4	Information Technology -- II (Problem solving & Programming)	3	0	2	3	100	50	0	0	150
2.5	Engineering Mechanics	3	0	1	3	100	50	-	-	150
2.6	Social Sciences	2	0	0	0	0	50	-	-	50
2.7	Modern Workshop Practice	0	0	4	0	0	50	-	-	50
2.8	Computer Aided Drafting	0	0	2	0	0	50	-	-	50
TOTAL		19	0	13	-	500	375	-	-	375

  
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4. Practical/Oral exams: Starting on 18<sup>th</sup> Wednesday.
5. Theory Exams: Starting on 20<sup>th</sup> Wednesday.
6. Vacation: Starting on 21<sup>st</sup> Wednesday.
7. Declaration of all examination results in the 26<sup>th</sup> Week.

**SCHEME OF INSTRUCTION & EXAMINATION  
SECOND YEAR (ELECTRICAL & ELECTRONIC ENGINEERING)**

**Semester III**

No	Subject	L	T	P	Duration Of Theory Exam	Marks allotted				Total
						Th	S	P	O	
1	Engineering Mathematics III	3	1	-	3	100	25	-	-	125
2	Electromagnetic Fields	3	1	-	3	100	25	-	-	125
3	Network analysis and Synthesis	3	1	2	3	100	25	50	-	175
4	Electrical Machines I	3	1	2	3	100	25	-	-	125
5	Electronics	3	1	2	3	100	25	50	-	175
6	Electrical Measurement And Instruments	3	1	2	3	100	25	-	-	125
	<b>Total</b>	<b>18</b>	<b>6</b>	<b>8</b>	<b>-</b>	<b>600</b>	<b>150</b>	<b>100</b>		<b>850</b>

**3.1. ENGINEERING MATHEMATICS**

Lectures per week	: 3 hrs
Tutorials per week	: 1 hr.
Practicals per week	: 0 hrs.
Maximum marks for the paper	: 100
Max. marks for sessional	: 25
Duration of the paper	: 3 hrs.
Total number of modules	: 4
Questions to be drawn from each module	: 2
Min. no. of questions to be answered from each module	: 1
Total number of questions to be answered in the paper	: 5

**Module 1**

Laplace Transforms: Definition, existancy conditions. Laplace transforms of 1; e (at), C, Cos(at), sin(at), f(t). f(t), Df(t), cosh(at) sinh(at) integral f(t) between the limits 0 to t. First and second shift theorem. Inverse Laplace Transforms Convolution theorem. Solution of ordinary linear differential equation. Engineering applications.

**Module II**

Fourier Series - convergence of infinite series, Uniformly convergent series. Power series and their properties. Trignometric and Fourier Series. Diritchlet Conditions Fourier coefficients. Expansion of functions. Even-odd functions Half range series. Fourier transforms and Fourier integral. Analysis by Fourier methods.

**Module III**

Partial Differential Equations: Equation governing transverse vibration of elastic string, solution using Fourier series. Vibration of rectangular and circular members/ Heat equation, steady state equation for heat flow & Laplace equation in two and three dimensions. Variable heat flow in one dimension. Maxwell's equations.

**SCHEME OF INSTRUCTION & EXAMINATION  
SECOND YEAR (ELECTRICAL AND ELECTRONIC ENGINEERING)**

**SEMESTER IV**

No	Subject	L	T	P	Duration Of Theory Exam	Marks allotted				Total
						Th	S	P	O	
1	Numerical techniques and programming	3	0	2	3	100	25	-	-	125
2	Electrical Machines II	3	1	2	3	100	25	50	-	175
3	Linear Integrated circuits	3	1	2	3	100	25	50	-	175
4	Analog and Digital Communication	3	1	2	3	100	25	-	-	125
5	Economics and Management	3	0	0	3	100	25	-	-	125
6	Electronic Instruments	3	1	2	3	100	25	-	-	125
	Total	18	4	10	-	600	150	100	-	850

**4.1 NUMERICAL TECHNIQUES AND PROGRAMMING**

Lectures per week	: 3 hrs
Tutorials per week	: 0 hr.
Practicals per week	: 2 hrs.
Maximum marks for the paper	: 100
Maximum marks for practicals	: 0
Max. marks for sessional	: 25
Duration of the paper	: 3 hrs.
Total number of modules	: 4
Questions to be drawn from each module	: 2
Min. no. of questions to be answered from each module	: 1
Total number of questions to be answered in the paper	: 5



**Module I**

Matrices - types of matrices - Adjoint matrix, Inverse matrix, Elementary row and column transformation, rank of matrix, linear dependence of row and column matrix, reduction of matrix to a normal canonical form, partition of matrices, linear independent solution of matrix equations  $AX=B$ . Eigen values and Eigen vectors Cayley Hamilton theorem. Diagonalisation techniques. Quadratic form. Orthogonal matrix transformation.

**Module II**

Finite difference of first and higher order, forward, backward, central and divided difference, difference table.

Taylor's Operator-D. Shift operator-E, averaging operator-U, difference of polynomials, factorial polynomials. Newton's forward and backward difference interpolation formulae, Sterling's and Bessel's interpolation formulae, Lagrange's and Newton's divided difference interpolation formulae.

**Module III**

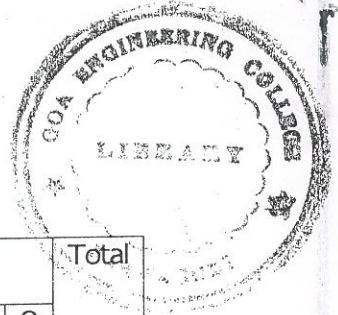
Transcendental equations. Newton-Raphson method Regula falsi, Chord method, criterion for convergence.

Numerical differentiation: Central difference, descending and ascending difference formulae for first and higher order derivatives.

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SCHEME OF INSTRUCTION & EXAMINATION  
THIRD YEAR (ELECTRICAL & ELECTRONICS ENGINEERING)



Semester V

No	Subject	L	T	P	Duration of Theory Exam	Marks Allotted				Total
						Theory	S	P	O	
1	Electrical Power	3	0	0	3	100	25	-	-	125
2	Electrical Machines III	3	1	2	3	100	25	50	-	175
3	Design of Electronic Circuits	3	0	2	3	100	25	-	-	125
4	Control Engineering	3	1	2	3	100	25	-	-	125
5	Microprocessors	3	1	2	3	100	25	50*	-	175
6	Digital Integrated Circuits	3	1	2	3	100	25	-	-	125
	Total	18	4	10	-	600	150	100	-	850

\* Practical examination shall consist of experiments from subjects 5.5 and 5.6.

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Semester VI

No	Subject	L	T	P	Duration of Theory Exam	Marks Allotted				Total
						Theory	S	P	O	
1	Power Electronics	3	1	2	3	100	25	50	-	175
2	P.C. Systems & Simulations	3	1	2	3	100	25	50	-	175
3	Power System Engineering	3	1	0	3	100	25	-	-	125
4	Digital Control Systems	3	1	0	3	100	25	-	-	125
5	Microcontrollers & PLDs	3	1	2	3	100	25	-	-	125
6	Electrical Machine Design	3	1	2	3	100	25	-	-	125
	<b>Total</b>	<b>18</b>	<b>6</b>	<b>8</b>	<b>-</b>	<b>600</b>	<b>150</b>	<b>100</b>	<b>-</b>	<b>850</b>

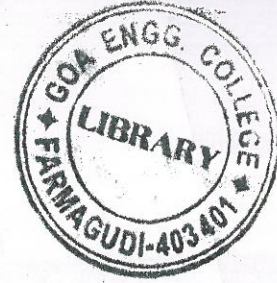
  
 Prof. Dr. ...  
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Syllabus

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SCHEME OF INSTRUCTION & EXAMINATION  
FINAL YEAR (ELECTRICAL & ELECTRONICS ENGINEERING)

Semester VII

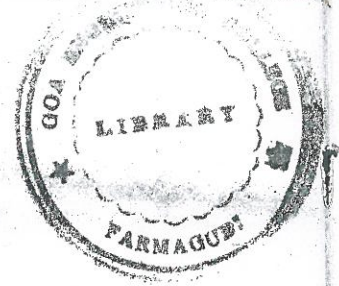
No	Subject	L	T	P	Duration of Theory Exam	Marks Allotted				Total
						Theory	S	P	O	
1	Electrical Drives & Controls	3	1	2	3	100	25	-	50	175
2	Power System Protection	3	1	-	3	100	25	-	-	125
3	Virtual Instrumentation	3	1	2	3	100	25	-	-	125
4	Elective I	3	1	2	3	100	25	-	50	175
5	Elective II	3	1	2	3	100	25	-	50	175
6	Project	-	-	3	-	-	-	-	50	50
7	Seminar	-	-	1	-	-	25	-	-	25
	Total	15	5	12	-	500	150	-	200	850

Elective I	Elective II
Data Base Management Systems	Flexible AC Transmission System-I
Power System Operation and Control	Engineering Design I (Power)
Digital Signal Processing	Process dynamics, Modeling and Control
Industrial Robotics	Very Large Scale Integrated Circuit Design
Management Information Systems	Neural Networks And Its Application To Power Systems
Marketing Economics and Sales Management	Neural Networks and Fuzzy Logic
Fuzzy Set Theory And Its Application To Power Systems	Computer Numerical Control
	Intellectual Property Rights

  
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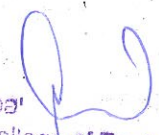


## Semester VIII

No	Subject	L	T	P	Duration of Theory Exam	Marks Allotted				Total
						Theory	S	P	O	
1	High Voltage Engineering	3	1	-	3	100	25	-	-	125
2	Computer Networks	3	1	2	3	100	25	-	-	125
3	Elective III	3	1	2	3	100	25	-	50	175
4	Elective IV	3	1	2	3	100	25	-	50	175
5	Project	-	-	10	-	-	-	50	50	100
6	In plant Training / Industrial Tour	10 days between Semesters VII & VIII				-	50	-	-	50
	Total	12	4	16	-	400	150	50	150	750

Elective III	Elective IV
Advanced Electrical Drives	Image Processing analysis and machine vision
Power System Planning and Operation	Flexible AC Transmission II
Electricity Utilisation Systems	Engineering Design II
Optical Communications	Optoelectronics
Expert Systems	Software Engineering
Acoustic Engineering	Bio-medical Instrumentation
Managing Information Technology	Laser Technology
Energy Engineering and Management	Operation Research
	Indian Constitution And Society

  
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SCHEME OF INSTRUCTIONS AND EXAMINATION  
For F. E. (Semester I and II)

Semester I (Civil, Mechanical, Electronics  
& Tele-Comm. and Computer Engg.)

Sr No.	Subject	Department to teach	Teaching Schedule			Dur-ati-on	Examination Scheme				
			L	T	P		T	Pr	TW	O	T
						h	ac	e	r	O	
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1.	Applied Maths I	Mathematics	3	1	—	3	100	—	—	—	100
2.	Applied Physics	Physics	3	1	2	3	100	—	25	—	125
3.	Applied Chemistry	Chemistry	3	1	2	3	100	—	25	—	125
4.	Communication skills	English	1	—	3	2	75	—	25	—	100
5.	Engineering Graphics I	Mechanical	2	—	6	4	100	—	50	—	150
6.	Basic Electrical Engineering	Electrical	3	1	2	3	100	—	25	—	125
7.	Basic Civil Engineering	Civil	3	1	2	3	100	—	25	—	125
8.	Work Shop Practicals	Mech. Workshop	—	—	5	—	—	—	50	—	50
<b>Total</b>			<b>18</b>	<b>5</b>	<b>22</b>	<b>7</b>	<b>675</b>	<b>—</b>	<b>225</b>	<b>—</b>	<b>900</b>

*ARK*

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SCHEME OF INSTRUCTIONS AND EXAMINATION  
For F. E. (Semester I and II)  
Semester II (Civil, Mechanical, Electrical, Electronics  
& Tele-Comm. and Computer Engg.)

Sr No.	Subject	Department to teach	Teaching Schedule			Dur-ati-on	Examination Scheme				
			L	T	P		T	Pr	TW	O	T
1.	Applied Maths II	Mathematics	3	1	—	3	100	—	—	—	100
2.	Engg. Mechanics	Civil	3	1	2	3	100	—	25	—	125
3.	Intr. to Computer Programming & Problem Solving	Computer	3	1	3	3	100	—	25	—	125
4.	Basic Mechanical Engg.	Mechanical	3	1	2	3	100	—	25	—	125
5.	Basic Electronics	Electronics & Telecomm.	3	1	2	3	100	—	25	—	125
6.	Engineering Graphics II	Mechanical	2	0	6	4	100	—	50	—	150
7.	Work shop Practice	Mech. workshop	—	0	6	—	—	—	50	—	50
Total			17	5	21		600	—	200	—	800

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Farmagudi, Ponda-Goa

## SCHEME OF INSTRUCTION AND EXAMINATION

### SECOND YEAR ELECTRICAL ENGINEERING SEMESTER III

Sr No.	Subject	Teaching Dept to Teach	Schedule			Duration (hrs)	Examination Scheme				
			* L	T	P		T	Pra	T	W	O
1.	Engg Mathematics 1	Mathematics	4	1	—	3	100	—	—	—	100
2.	Electrical Machines	Electrical	4	1	3	3	100	—	25	—	125
3.	Electrical & Electronic materials & Components	-do-	4	1	—	3	100	—	—	—	100
4.	Basic Electronics	-do-	4	1	3	3	100	—	25	—	125
5.	Elect. Instruments	-do-	4	1	3	3	100	—	25	—	125
6.	Electromagnetic field	-do-	4	1	3	3	100	—	25	—	125
<b>Total</b>			<b>24</b>	<b>6</b>	<b>12</b>		<b>600</b>		<b>100</b>		<b>700</b>

\* L - Lectures, P - Practicals, T - Tutorial.

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6. Electromagnetic Fields and Waves - Lorrain & Carson, Taraporwalla and sons.
7. Introduction to Electromagnetic Fields - Seely, McGraw Hill.

### SCHEME OF INSTRUCTION AND EXAMINATION

#### SECOND YEAR ELECTRICAL ENGINEERING SEMESTER IV

Sr No.	Subject	Teaching Dept to Teach	Schedule			Duration (hrs)	Examination Scheme				
			* L	T	P		T	Pra	T	W	O
1.	Engg Mathematics II	Mathematics	4	1	—	3	100	—	—	—	100
2.	Network Analysis & Synthesis	Electrical	4	1	3	3	100	—	25	50	175
3.	Electrical Machines II	-do-	4	1	3	3	100	50	25	—	175
4.	Basic Electronics II	-do-	4	1	3	3	100	50	25	—	175
5.	Basic Machine design & Thermodynamics	Mechanical	4	1	3	3	100	—	25	—	125
6.	Hydraulics and Hydraulic Machines	Civil	4	1	3	3	100	—	25	50	175
Total			24	5	15		600	100	125	100	925

\* L - Lectures, P - Practicals, T - Tutorial.

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### 1. ENGINEER

Instruction  
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# SCHEME OF INSTRUCTION AND EXAMINATION

## THIRD YEAR ELECTRICAL ENGINEERING SEMESTER V

Sr No.	Subject	Teaching Dept to Teach	Schedule			Duration (hrs)	Examination Scheme				
			* L	T	P		T	Pra	T	W	O
1.	Basic control system	Electrical	4	1	3	3	100	—	25	—	125
2.	Electrical Machines III	-do-	4	1	3	3	100	—	25	50	175
3.	Computer oriented numerical Techniques	-do-	4	1	3	3	100	—	25	—	125
4.	Generation & Transmission of Electrical Energy	-do-	4	1	—	3	100	—	—	—	100
5.	Linear integrated circuits	-do-	4	1	3	3	100	—	25	50	175
6.	Industrial Electronics	-do-	4	1	3	3	100	—	25	50	175
Total			24	6	15		600		125	150	875

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### 1. BASIC CONTROL INSTRUCTION

L	T	P
4	1	3

- 1.1 Basic definition of control systems, time variant and adaptive control
- 1.2 Servo systems, armature controlled motors, Synchro
- 1.3 Mathematical models of physical systems, linearisation, Transfer functions, flow graphs, Nyquist
- 1.4 Time response of systems, Time constants, state error of first order error series.
- 1.5 Stability of linear systems, Routh - Hurwitz
- 1.6 Root Locus method and rules for
- 1.7 Frequency Response plots, log magnitude criterion, Relative stability
- 1.8 Preliminary design of compensation

SCHEME OF INSTRUCTION AND EXAMINATION

THIRD YEAR ELECTRICAL ENGINEERING  
SEMESTER VI

Sr. No.	Subject	Teaching Dept. to Teach	Schedule			Duration (hrs)	Examination Scheme				
			* L	T	P		T	Pra	T	W	O
1.	Distribution & Utilization of Electrical Energy	Electrical	4	1	—	3	100	—	—	50	150
2.	Electronic instruments	-do-	4	1	3	3	100	—	25	50	175
3.	Digital integrated circuit	-do-	4	1	3	3	100	50	25	—	175
4.	Microprocessor & its Application	-do-	4	1	3	3	100	50	25	—	175
5.	Electrical & Electronics workshop	-do-	—	1	3	—	—	—	25	50	75
6.	Elements of communications Engg.	Elect. & Com.	4	1	3	3	100	—	25	—	125
7.	Ind. Eco. Management	Humanities	4	—	—	3	100	—	—	—	100
Total			24	6	15		600	100	125	150	975

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## BOOKS RECOMMENDED

1. Engineering Economics and Accounting - G. K. Mithal.
2. Management of Industry - C. S. George.
3. Management of production - Radford & Richard.
4. Principles of Industrial Organisation - Kimbal & Kimbal.

## SCHEME OF INSTRUCTION AND EXAMINATION

### B. E. ELECTRICAL ENGINEERING

#### SEMESTER VII

Sr. No.	Subject	Teaching Dept to Teach	Schedule			Duration (hrs)	Examination Scheme				
			* L	T	P		T	Pra	T	W	O
	Power Electronics	Electrical	4	1	3	3	100	—	25	50	175
	Electronic Circuit Design	-do-	4	1	3	3	100	—	25	—	125
	Power System Analysis	-do-	4	1	3	3	100	—	25	50	175
	Electrical Machine Design	-do-	4	1	3	3	100	—	25	50	175
	Elective I	-do-	4	1	3	3	100	—	25	50	175
	Project	-do-	—	—	5	Seminar	—	—	—	—	50
<b>Total</b>			<b>20</b>	<b>5</b>	<b>20</b>	<b>500</b>		<b>125</b>	<b>200</b>	<b>875</b>	

Lectures P - Practicals, T - Tutorial.

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## BOOKS RECOMMENDED

- ✓ 1. Electrical Network Theory - Balabanian and Biekart
- ✓ 2. Linear graphs and Electrical Networks - S. Seshu and M. Reed.

### SCHEME OF INSTRUCTION AND EXAMINATION

#### B. E. ELECTRICAL ENGINEERING

#### SEMESTER VIII

Sr No.	Subject	Teaching Dept to Teach	Schedule			Duration (hrs)	Theory	Examination Scheme				
			* L	T	P			T	Pra	T	W	O
1.	Electrical Drives & Control	Electrical	4	1	3	3	100	—	25	50	175	
2.	Switch gear & Protection	-do-	4	1	3	3	100	—	25	50	175	
3.	Elective II	-do-	5	1	3	3	100	—	50	50	200	
4.	Project	-do-	—	—	15	—	—	—	50	50	200	
<b>Total</b>			<b>13</b>	<b>3</b>	<b>24</b>	<b>300</b>			<b>150</b>	<b>200</b>	<b>650</b>	

Lectures, P - Practicals, T - Tutorial.

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SCHEME OF INSTRUCTION & EXAMINATION

FIRST YEAR ENGINEERING

(CIVIL, MECHANICAL, ELECTRICAL & ELECTRONICS, ELECTRONICS & TELECOMMUNICATION, &  
COMPUTER ENGINEERING)

SEMESTER I

No.	Subject	L	T	P	Duration Of Theory Exam	Marks Alloted				Total
						TH	S	P	O	
1.1	Applied Mathematics I	3	0	0	3	100	25	0	0	125
1.2	Applied Science -I (Physics & Chemistry)	4	0	2	3	100	50	0	0	150
1.3	Basic Engineering -I (Civil & Mechanical Engineering)	4	0	2	3	100	50	0	0	150
1.4	Information Technology -1	3	0	2	3	100	50	0	0	150
1.5	Engineering Graphics	2	0	4	4	100	50	0	0	150
1.6	Communication Skills	2	0	0	0	0	50	0	0	50
1.7	Workshop Practice	0	0	4	0	0	50	0	0	50
1.8	Environmental Studies	3	0	0	3	100	25	0	0	125
	<b>Total</b>	<b>21</b>	<b>0</b>	<b>14</b>	<b>-</b>	<b>600</b>	<b>350</b>	<b>0</b>	<b>0</b>	<b>950</b>

  
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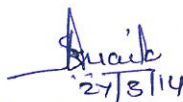
SCHEME OF INSTRUCTION & EXAMINATION


FIRST YEAR ENGINEERING

(CIVIL, MECHANICAL, ELECTRICAL & ELECTRONICS, ELECTRONICS & TELECOMMUNICATION, &  
COMPUTER ENGINEERING)

SEMESTER II

No	Subject	L	T	P	Duration of Theory Exam	MARKS ALLOTTED				TOTAL
						Th	S	P	O	
2.1	Applied Mathematics II	3	0	0	3	100	25	-	-	125
2.2	Applied Sciences – II (Physics & Chemistry)	4	0	2~	3	100	50	-	-	150
2.3	Basic Engineering – II (Electrical & Electronics Engineering.)	4	0	2~	3	100	50	-	-	150
2.4	Information Technology – II (Problem solving and Programming)	3	0	2	3	100	50	-	-	150
2.5	Engineering Mechanics	3	0	1	3	100	50	-	-	150
2.6	Social Sciences	2	0	0	0	0	50	-	-	50
2.7	Modern Workshop Practice	0	0	4	0	0	50	-	-	50
2.8	Computer Aided Drafting	0	0	2	0	0	50	-	-	50
TOTAL		19	0	13	-	500	375	-	-	875

  
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SCHEME OF INSTRUCTION & EXAMINATION  
SECOND YEAR (ELECTRICAL & ELECTRONICS ENGINEERING)

Semester III

No	Subject	L	T	P	Duration of Theory Exam	Marks Allotted				
						Theory	S	P	O	Total
1	Engineering Mathematics III	3	1	-	3	100	25	-	-	125
2	Electromagnetic Fields	3	1	-	3	100	25	-	-	125
3	Network Analysis and Synthesis	3	1	2	3	100	25	50	-	175
4	Electrical Machines I	3	1	2	3	100	25	-	-	125
5	Electronics	3	1	2	3	100	25	50	-	175
6	Electrical Measurement & Instruments	3	1	2	3	100	25	-	-	125
	Total	18	6	8	-	600	150	100	-	850

*Acade*  
27/3/14  
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SCHEME OF INSTRUCTION & EXAMINATION  
SECOND YEAR (ELECTRICAL AND ELECTRONICS ENGINEERING)

SEMESTER IV

No	Subject	L	T	P	Duration Of Theory Exam	Marks allotted				Total
						Th	S	P	O	
1	Numerical techniques and programming	3	0	2	3	100	25	-	-	125
2	Electrical Machines II	3	1	2	3	100	25	50	-	175
3	Linear Integrated circuits	3	1	2	3	100	25	50	-	175
4	Analog and Digital Communication	3	1	2	3	100	25	-	-	125
5	Economics and Management	3	0	0	3	100	25	-	-	125
6	Electronic Instruments	3	1	2	3	100	25	-	-	125
	Total	18	4	10	-	600	150	100	-	850

*Anita*  
27/8/14  
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SCHEME OF INSTRUCTION & EXAMINATION  
THIRD YEAR (ELECTRICAL & ELECTRONICS ENGINEERING)

Semester V

No	Subject	L	T	P	Duration of Theory Exam	Marks Allotted				Total
						Theory	S	P	O	
1	Electrical Power	3	0	0	3	100	25	-	-	125
2	Electrical Machines III	3	1	2	3	100	25	50	-	175
3	Design of Electronic Circuits	3	0	2	3	100	25	-	-	125
4	Control Engineering	3	1	2	3	100	25	-	-	125
5	Microprocessors	3	1	2	3	100	25	50*	-	175
6	Digital Integrated Circuits	3	1	2	3	100	25	-	-	125
	Total	18	4	10	-	600	150	100	-	850

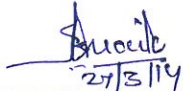
\* Practical examination shall consist of experiments from subjects 5.5 and 5.6.


*Shubal*  
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Semester VI

No	Subject	L	T	P	Duration of Theory Exam	Marks Allotted				Total
						Theory	S	P	O	
1	Power Electronics	3	1	2	3	100	25	50	-	175
2	P.C.Systems & Simulations	3	1	2	3	100	25	50	-	175
3	Power System Engineering	3	1	0	3	100	25	-	-	125
4	Digital Control Systems	3	1	0	3	100	25	-	-	125
5	Microcontrollers & PLDs	3	1	2	3	100	25	-	-	125
6	Electrical Machine Design	3	1	2	3	100	25	-	-	125
	Total	18	6	8	-	600	150	100	-	850

  
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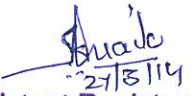
  
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SCHEME OF INSTRUCTION & EXAMINATION  
FINAL YEAR (ELECTRICAL & ELECTRONICS ENGINEERING)

Semester VII

No	Subject	L	T	P	Duration of Theory Exam	Marks Allotted				Total
						Theor y	S	P	O	
1	Electrical Drives & Controls	3	1	2	3	100	25	-	50	175
2	Power System Protection	3	1	-	3	100	25	-	-	125
3	Virtual Instrumentation	3	1	2	3	100	25	-	-	125
4	Elective I	3	1	2	3	100	25	-	50	175
5	Elective II	3	1	2	3	100	25	-	50	175
6	Project	-	-	3	-	-	-	-	50	50
7	Seminar	-	-	1	-	-	25	-	-	25
	<b>Total</b>	<b>15</b>	<b>5</b>	<b>12</b>	<b>-</b>	<b>500</b>	<b>150</b>	<b>-</b>	<b>200</b>	<b>850</b>

Elective I	Elective II
Data Base Management Systems	Flexible AC Transmission System-I
Power System Operation and Control	Engineering Design I (Power)
Digital-Signal-Processing	Process dynamics, Modeling and Control
Industrial Robotics	Very Large Scale Integrated Circuit Design
Management Information Systems	Neural Networks & Its Application To Power Systems
Marketing Economics and Sales Management	Neural Networks and Fuzzy Logic
Fuzzy Set Theory & Its Application To Power Systems ✓	Computer Numerical Control
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## Semester VIII

No	Subject	L	T	P	Duration of Theory Exam	Marks Allotted				Total
						Theory	S	R	O	
1	High Voltage Engineering	3	1	2	3	100	25	-	50	175
2	Elective III	3	1	2	3	100	25	-	50	175
3	Elective IV	3	1	2	3	100	25	-	50	175
4	Project	-	-	10	-	-	25	50	50	125
	Total	9	3	16	-	300	100	50	200	650

L-Lecture T-Tutorial P-Practical S-Sessional R-Report O-Oral

Elective III	Elective IV
Advanced Electrical Drives	Image Processing analysis and machine vision
Power System Planning and Operation	Flexible AC Transmission II
Electricity Utilization Systems	Engineering Design II
Optical Communications	Optoelectronics ✓
Expert Systems	Software Engineering
Acoustic Engineering	Bio-medical Instrumentation
Managing Information Technology	Laser Technology
Energy Engineering and Management ✓	Operation Research
Computer Networks	Indian Constitution And Society

*Anilk*  
2-13/14

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Ref<sup>o</sup>No.: GU/III/Dean-Engg/07/52 dated 24/05/07

SUBJECT: Minutes of the meeting of Chairmen of the Board of Studies in faculty of Engineering.

**ANNEXURE - I**

**GOA UNIVERSITY**

FIRST YEAR OF BACHELOR'S DEGREE COURSE IN ENGINEERING (Revised in 2007-08)  
SCHEME OF INSTRUCTION AND EXAMINATION

SEMESTER I (Common for all branches of Engineering)

Sub Code	Subjects	Scheme Of Instruction Hrs/Week			Scheme Of Examination					
		L	T	P	Th. Dur (Hrs)	Marks				
						Th	S	P	O	Total
1.1	Applied Mathematics I	4	-	-	3	100	25	-	-	125
1.2	Applied Sciences - I (Physics & Chemistry)	4	-	2	3	100	50	-	-	150
1.3	Basic Civil Engineering and Engineering Mechanics.	4	-	2	3	100	25	-	-	125
1.4	Basic Electrical Engineering	3	-	2	3	100	25	-	-	125
1.5	Engineering Graphics	2	-	4	4	100	50	-	-	150
1.6	Communication Skills	3	-	-	3	100	25	-	-	125
1.7	Workshop Practice - I	-	-	4	-	-	50	-	-	50
	<b>TOTAL</b>	<b>20</b>		<b>14</b>		<b>600</b>	<b>250</b>			<b>850</b>

L : Lectures, T : Tutorials, P : Practicals.

Th. Dur. : Duration of Theory Paper

Th : Theory, S : Sessional, P : Practical, O : Oral.

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*[Signature]*  
25/4/14

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Principal  
Goa College of Engineering (Govt. of Goa)  
Farmagudi, Ponda-Goa-403 401

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# GOA UNIVERSITY

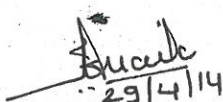
## FIRST YEAR OF BACHELOR'S DEGREE COURSE IN ENGINEERING (Revised in 2007-08) SCHEME OF INSTRUCTION AND EXAMINATION


### SEMESTER II: (Common for all branches of Engineering)

Sub code	Subjects	Scheme Of Instruction			Th Dur (Hrs)	Scheme Of Examination				
		Hrs/Week				Marks				
		L	T	P		Th	S	P	O	Total
2.1	Applied Mathematics - II	4	-	-	3	100	25	-	-	125
2.2	Applied Sciences - II (Physics & Chemistry)	4	-	2	3	100	50	-	-	150
2.3	Information Technology	4	-	2	3	100	25	-	-	125
2.4	Basic Mechanical Engineering	3	-	2	3	100	25	-	-	125
2.5	Basic Electronic Engineering	3	-	2	3	100	25	-	-	125
2.6	Environmental and Social Sciences	4	-	-	3	100	50	-	-	150
2.7	Workshop Practice - II Modern	-	-	4	-	-	50	-	-	50
<b>TOTAL</b>		22		12	-	600	250	-	-	850

L : Lectures, T : Tutorials, P : Practicals.  
Th Dur. : Duration of Theory Paper  
Th : Theory, S : Sessional, P : Practical, O : Oral

Page 2

  
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(Revised Course from 2007-2008)

**SCHEME OF INSTRUCTION & EXAMINATION  
SECOND YEAR (ELECTRICAL & ELECTRONICS ENGINEERING)**

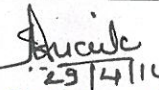
**Semester III**

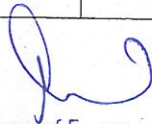
No	Subject	L	T	P	Duration of Theory Exam	Marks Allotted				
						Theory	S	P	O	Total
EE 3.1	Engineering Mathematics III	3	1	-	3	100	25	-	-	125
EE 3.2	Digital Integrated Circuits	3	1	2	3	100	25	50	-	175
EE 3.3	Electrical Circuit Analysis & Synthesis	3	1	-	3	100	25	-	-	125
EE 3.4	Electrical Machines I	3	1	2	3	100	25	-	-	125
EE 3.5	Electronic Devices & Circuits	3	1	2	3	100	25	50	-	175
EE 3.6	Electrical Measurement & Instruments	3	1	2	3	100	25	-	-	125
	Total	18	6	8	18	600	150	100		850

**SCHEME OF INSTRUCTION & EXAMINATION  
SECOND YEAR (ELECTRICAL & ELECTRONICS ENGINEERING)**

**Semester IV**

No	Subject	L	T	P	Duration of Theory Exam	Marks Allotted				
						Theory	S	P	O	Total
EE 4.1	Numerical Techniques and Programming	3	1	2	3	100	25	-	-	125
EE 4.2	Linear Integrated Circuits	3	1	2	3	100	25	50	-	175
EE 4.3	Electrical Power	3	1	-	3	100	25	-	-	125
EE 4.4	Electrical Machines II	3	1	2	3	100	25	50	-	175
EE 4.5	Analog and Digital Communication	3	1	2	3	100	25	-	-	125
EE 4.6	Economics Management	3	-	-	3	100	25	-	-	125
	Total	18	6	8	18	600	150	100		850

  
29/4/14  
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**SCHEME OF INSTRUCTION & EXAMINATION  
THIRD YEAR (ELECTRICAL & ELECTRONICS ENGINEERING)**

**SEMESTER V**

Subject Code	Subject	L	T	P	Duration of Theory Exam	Marks Allotted			Total
						TH	S	P	
EE 5.1	Electromagnetic Theory	3	1	--	3 Hrs	100	25	---	125
EE 5.2	Electrical Machines III	3	1	2	3 Hrs	100	25	50	175
EE 5.3	Design of Electronic Circuits	3	1	--	3 Hrs	100	25	---	125
EE 5.4	Control Engineering	3	1	2	3 Hrs	100	25	---	125
EE 5.5	Microprocessor and Interfacing	3	1	2	3 Hrs	100	25	50	175
EE 5.6	Electronic Instrumentation	3	1	2	3 Hrs	100	25	---	125
	<b>Total</b>	<b>18</b>	<b>6</b>	<b>8</b>		<b>600</b>	<b>150</b>	<b>100</b>	<b>850</b>

- ❖ Practical examination I shall consist of experiments from subjects EE5.2 and EE5.4.
- ❖ Practical examination II shall consist of experiments from subjects EE5.5 and EE5.6.

**Semester VI**

Subject Code	Subject	L	T	P	Duration of Theory Exam	Marks Allotted			Total
						TH	S	P	
EE 6.1	Power Electronics	3	1	2	3 Hrs	100	25	50	175
EE 6.2	Digital Signal Processing.	3	1	-	3 Hrs	100	25	--	125
EE 6.3	Electrical Power System I	3	1	-	3 Hrs	100	25	--	125
EE 6.4	Electrical Drives and Control	3	1	2	3 Hrs	100	25	50	175
EE 6.5	Embedded Systems	3	1	2	3 Hrs	100	25	--	125
EE 6.6	Electrical Machine Design	3	1	2	3 Hrs	100	25	--	125
	<b>Total</b>	<b>18</b>	<b>6</b>	<b>8</b>		<b>600</b>	<b>150</b>	<b>100</b>	<b>850</b>

- ❖ Practical examination shall I consist of experiments from subjects EE6.1 and EE6.5
- ❖ Practical examination shall II consist of experiments from subjects EE6.4 and EE6.6

*A. A. A.*  
29/4/14  
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SCHEME OF INSTRUCTION & EXAMINATION

FINAL YEAR (ELECTRICAL & ELECTRONICS ENGINEERING)

Semester VII

Code No	Subject	L	T	P	Duration of Theory Exam	Marks Allotted				Total
						Theor y	S	P	O	
7.1	VLSI Circuit Design	3	1	2	3	100	25	-	50	175
7.2	Electrical Power System II	3	1	-	3	100	25	-	-	125
7.3	Advanced Controlled drives	3	1	2	3	100	25	-	-	125
7.4	Elective I	3	1	2	3	100	25	-	50	175
7.5	Elective II	3	1	2	3	100	25	-	50	175
7.6	Project	-	-	3	-	-	25	-	50	75
	Total	15	5	12	-	500	150	-	200	850

Elective I	Elective II
7.4.1 Power system Deregulation	7.5.1 Engineering Design
7.4.2 Switch Mode Power conversion	7.5.2 Special Electric Machines
7.4.3 Electrical Estimation and costing	7.5.3 Flexible AC Transmission System
7.4.4 Advanced Digital Signal Processing	7.5.4 Data communication and Networking
7.4.5 Neural Networks and Fuzzy logic	7.5.5 Industrial Robotics
7.4.6 Data Base Management Systems	7.5.6 Satellite Communication

*Anand*  
29/4/14  
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## SCHEME OF INSTRUCTION & EXAMINATION

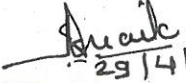
### B. E. FOURTH YEAR (ELECTRICAL & ELECTRONICS ENGINEERING)


Semester VIII

Code No	Subject	L	T	P	Duration of Theory Exam	Marks Allotted				Total
						Theory	S	R	O	
8.1	High Voltage Engineering	3	1	2	3	100	25	-	50	175
8.2	Principles of Industrial Engineering	3	-	-	3	100	25	-	50	175
8.3	Elective III	3	1	2	3	100	25	-	50	175
8.4	Elective IV	3	1	2	3	100	25	-	50	175
8.5	Project	-	-	10	-	-	50	50	50	150
	Total	9	3	16	-	400	150	50	250	850

L-Lecture T-Tutorial P-Practical S-Sessional R-Report O-Oral

Elective III	Elective IV
8.3.1 Transient over voltages in Power system	8.4.1 Power Quality
8.3.2 Energy Engineering and Management	8.4.2 Image Processing and machine vision
8.3.3 Testing & Commissioning of Electrical equipment	8.4.3 Wind and PV Electrical Energy Systems
✓ 8.3.4 Protective Static Relays	8.4.4 Biomedical Instrumentation
8.3.5 Cryptography And Network Security	8.4.5 Optimization Techniques
8.3.6 Optical fiber Communications	✓ 8.4.6 Illumination Engineering

  
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